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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/782,737	02/18/2004	Osama Khouri	854163.410	1670

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EXAMINER

LUU, PHO M

ART UNIT PAPER NUMBER

2824

DATE MAILED: 02/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/782,737

Applicant(s)

KHOURI ET AL.

Examiner

Pho M. Luu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 and 17-31 is/are pending in the application.
- 4a) Of the above claim(s) 11-16 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 17-31 is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☒ Claim(s) 4-10 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 07/13/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☒ Other: Search History.

DETAILED ACTION

Reply to Election/Restrictions

1. Applicant's election without traverse of Group I, Claims 1-10 and 17-25 filed 06 December 2004 is acknowledged. The changes and remarks disclosed therein were considered.
2. Claims 11-16 have been canceled.
3. Claims 26-31 are newly added.
4. Claims 1-10 and 17-31 are pending in the application.

Priority

5. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

6. Acknowledgment is made of applicant's Information Disclosure Statement (IDS) Form PTO-1449, filed 13 July 2004. The information disclosed therein was considered.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the

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applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 1-3 are rejected under 35 U.S.C. 102(e) as being anticipated by Khouri et al. (US. 6,754,107).

Regarding claim 1, Khouri et al. in Figures 3-4 discloses a phase change memory device (10, Figure 4) comprising: a memory array (11, Figure 4) formed by a plurality of memory cells (inherency, memory array 11 including memory cells) which each cell comprising a memory element of calcogenic (for example, see column 1, lines 44-45) material and a selection element (13 coupled in series with memory array in Figure 4, also, see column 3, lines 42-46) connected in series with the memory element; a plurality of address lines (14, 15, Figure 4) connected to the memory cells and a write stage (23, Figure 4) connected to the memory array (output of program load 23 coupled to column selector 13 with output to memory array 11) including current generator for selectively connected to the address line (address bit line 15) and supplying selected memory cells with current having values that modify an electrical property of the memory element of the selected memory cells (see column 3, lines 57-65). To be more specific, the program load 23 including bias current coupled between volts regulator 19 and column selection 13 to memory array 11 during a program.

With respect to claim 2, Khouri et al. in Figure 4 disclosed that the write stage (23 including bias current output to column selector 13 which is connected to address bit line 15) including a single current generator that is connected to the address lines.

With respect to claim 3, Khouri et al. in Figure 4 disclosed that the write stage (23 including bias current output to column selector 13 which is connected to address bit line 15) including a plurality of current generator that is connect the address lines (15) which is connected to an addressed memory cell (16).

Allowable Subject Matter

9. Claims 4-10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. The following is a statement of reasons for the indication of allowable subject matter:

Regarding claims 4-5, the prior art of record do not disclose or suggest a logic circuit having a data input receiving a data signal and a plurality of outputs connected respectively to the control terminal of the generator transistor and generating the control signal.

Regarding claim 6, the prior art of record do not disclose or suggest a comparator connected to the selected address lines and cell current with reference current of preset value.

11. Claims 17-31 are allowed.

The following is an examiner's statement of reasons for allowance:

There is no teaching or suggestion in the prior art to: “the current generator being structured to ensure that the value of current does not depend on a position of the selected memory cell within the column to which the selected bit line is connected” as claimed in the independent claim 17; or

“the current generator being structured to provide a voltage to the selected memory cell that depend on a position of the selected memory cell within the column to which the selected bit line is connected” as claimed in the independent claim 26.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Khoury et al. (US. 6,816,404) disclosed the phase change nonvolatile memory device including two phases changing in different values of memory.


13. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Pho M. Luu whose telephone number is 571.272.1876. The examiner can normally be reached on M-F 8:00AM – 5:00PM.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's Supervisor, Richard Elms, can be reached on 571.272.1869. The official fax number for the organization where this application or proceeding is assigned is 703.872.9306 for all official communications.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PML
17 February 2005



ANH PHUNG
PRIMARY EXAMINER